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(54) Title: THREE-DIMENTIONAL, FLEXIBLE CELL GROWTH SUBSTRATE AND RELATED METHODS

(57) Abstract: An engineered cell growth substrate is provided along with an apparatus containing the substrate. The substrate contains features, including, without limitation: an extracellular matrix mimetic, areas of differing elasticity moduli and/or 3-dimensional engineered formations, such as grooves or protuberances. Methods of fabricating the cell growth substrate, methods of growing cells on the substrate, and methods of evaluating analytes on cells on the substrate also are provided.

International Application No PUS2004/011796

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N5/00 C12M1/20 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N C12M Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with Indication, where appropriate, of the relevant passages Category ° 1-55,57, US 4 789 601 A (BANES ALBERT J) X 61-65, 6 December 1988 (1988-12-06) 71, 87-95. 98, 117-121, 132-154 column 3, line 21 - line 41 column 4, line 61 - column 5, line 49; claim 9; figures 1-6 -/--Patent family members are listed in annex. X Further documents are listed in the continuation of box C. X Special categories of cited documents : "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 16 02 2005 27 October 2004

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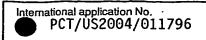
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International Application No
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claims 1-42 			
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	SKOTT (US); KAUFMANN CAROL A (US)) 10 May 2002 (2002-05-10) page 3, line 15 - line 29 page 6, line 15 - page 8, line 9; claims 1,5,7,9-19; figures 1-6 WO 91/19783 A (DU PONT) 26 December 1991 (1991-12-26)		

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: See annex
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims:

1-12,13-18(part),19-55,57(part), 61-65(part),71(part),87-95(part),98 (part),117-121(part),132,133-135(part), 136-154

Cell growth substrate comprising an elastomeric membrane of a first material that comprises a first portion having a first elasticity and a second portion having a second elasticity, as well as method for preparing it, apparatus comprising it and method of culturing cells using such an apparatus.

2. claims:

13-18(part),56,57(part),58-60, 61-65(part),66-70,71(part),72-86,87-9 5(part),96,97,98(part),99-116, 117-121(part),122-131,133-135(part),1 55,156

Cell growth substrate comprising an elastomeric membrane of a first material that is at least partially coated with an extracellular matrix-mimetic, as well as a method for preparing it, apparatus comprising it and method of culturing cells using the apparatus.

3. claim: 157

A method of culturing cells comprising growing cells in a cell growth apparatus comprising a substrate comprising a first elastomeric membrane and a removable second elastomeric membrane.

ormation on patent family members

International Application No
P(US2004/011796

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